

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
ON APPEAL FROM THE EXAMINER TO THE BOARD
OF PATENT APPEALS AND INTERFERENCES**

In re application of: Christopher F. Parker
Serial No.: 09/349,198
Filing Date: July 7, 1999
Art Unit: 3694
Confirmation No. 6293
Examiner: Ella Colbert
Title: *Database Table Recovery System*

Mail Stop Appeal Brief - Patents

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Reply Brief

Appellant respectfully submits this Reply Brief under 37 C.F.R. § 41.41 in response to the Examiner's Answer mailed May 14, 2008. Appellant filed an Appeal Brief on February 11, 2008, explaining in clearly and in detail why the final rejections of Claims 1-4 and 12-20 are improper and should be reversed by the Board. As explained in more detail below, the Examiner's final rejection of these claims cannot be properly maintained. Appellant respectfully requests the Board to reverse these final rejections and instruct the Examiner to issue a Notice of Allowance for these claims. In response to the Examiner's Answer, Appellant submits herewith his brief in reply.

Argument

The Examiner's Answer consists of substantially similar arguments to those presented in the Final Office Action, along with a section responding to some of Appellant's arguments presented in the Appeal Brief. To reduce the burden on the Board, Appellant specifically addresses only the section of the Examiner's Answer directed to Appellant's arguments in the Appeal Brief. The remaining portions of the Examiner's Answer have already been addressed in Appellant's Appeal Brief.

All the rejections are based on 35 U.S.C. § 103(a). Thus, Appellants reiterate the standard the Examiner must satisfy to prove a *prima facie* case of obviousness under the Federal Circuit decisions and the M.P.E.P., as set forth in the Appeal Brief at Section II.¹

I. Independent Claim 1 is Allowable over the *Sockut-Barry* Combination

A. The *Sockut-Barry* Combination Fails to Disclose, Teach, or Suggest Each and Every Limitation Recited in Claim 1

Appellant maintains that, at a minimum, the proposed *Sockut-Barry* combination fails to disclose, teach, or suggest the database table recovery system recited in Claim 1 that is operable to:

- apply updates to the [retrieved] backup copy [of the tablespace] from a log associated with a database table; and
- restore the database table associated with the tablespace from the updated backup copy without recovering the tablespace.

As allegedly disclosing these limitations, the Examiner relies on portions of *Sockut*. (Final Office Action at 3-4; Answer at 3, 8-10) Appellant disagrees that *Sockut* (whether considered alone or in combination with *Barry*) discloses, teaches, or suggests these limitations.

Appellant argued that both *Sockut* and *Barry* appear to relate to *reorganizing* tablespaces, not *recovering* a database table. (See, e.g., Appeal Brief at 16-18; *Sockut*,

¹ The Examiner's comment with respect to what the Examiner identifies as Applicant's Argument no. 1 is somewhat confusing. (See Answer at 7-8) The portion of Applicant's Appeal Brief the Examiner references, (Appeal Brief at 14), merely provides the standard an Examiner must meet to demonstrate a *prima facie* case of obviousness. Applicant's substantive argument as to why the Examiner's proposed combination is improper (including that the Examiner has not demonstrated an adequate reason for the combination and used impermissible hindsight reconstruction) was addressed in detail in a later portion of the Brief (see, e.g., Section III.B beginning on Page 19 of the Appeal Brief).

Abstract; Col. 1, ll. 11-15; Col. 3, l. 60 – Col. 4, l. 29; Col. 9, ll. 29-44; *Barry* at 2:6-19) The Examiner continues to rely on portions of *Sockut* and *Barry* that relate to reorganizing tablespaces. (*See, e.g.*, Answer at 3 and 9) Recovering a database table is the process of restoring a database table to a prior effective state, after the database has been erased or corrupted for example. (*See, e.g.*, Spec. at 2:1-10) Reorganizing a tablespace is the process of rearranging clusters to reduce the degree to which clusters are scattered. (*See, e.g.*, *Barry* at 2:6-19) The proposed *Sockut-Barry* combination is deficient for at least this reason alone.

The Examiner's only apparent response to this argument is that "it is interpreted that the reorganization process is analogous to the recovering of the database . . . tablespace from the backup copy without recovering the tablespace." (Answer at 10) Certainly, the Examiner cannot resolve such a clear distinction by a mere conclusory assertion that reorganizing and recovering are analogous processes. The Examiner has not provided any reasons why one of ordinary skill in the art at the time of Appellant's invention would have considered reorganizing and recovering to be analogous, let alone why it would have been obvious to modify the combination of *Sockut* and *Barry* with such a further alteration. Additionally, as Appellant discussed above, the two processes are different.

In response to Appellant's other arguments regarding particular limitations of Claim 1 that are not disclosed, taught, or suggested by the cited portions of *Sockut*, the Examiner simply refers to those same cited portions, quoting particular language. (*See* Answer at 8-10)

For example, the Examiner again cites column 2, lines 4-11 of *Sockut*. (*See* Answer at 9) This cited portion appears in the Background Art section of *Sockut* and relates to a *reorganization* strategy called fuzzy reorganization. With fuzzy reorganization, according to *Sockut*, a reorganizer records a current relative byte address of a log (which, according to *Sockut*, is a sequence of entries in a file (a region of storage) recording the changes that occur in a database). (*See Sockut*, 1:63-2:6) According to *Sockut*, the reorganization copies data from an old (original) area for the table space to a new area for the table space in reorganized form. Concurrently, users can use the DBMS's normal facilities to read and write the old area, and the DBMS uses its normal facilities to record the writing in a log. (*Sockut*, 2:6-11)

The reorganizer then reads the log and applies it to the new area to bring the new area up to date. (*Sockut*, 2:11-12)

However, nowhere do these cited portions disclose, teach, or suggest a database table recovery system that is operable to “restore the database table associated with the tablespace from the updated backup copy without recovering the tablespace,” as recited in Claim 1. In fact, it is not at all clear how reorganizing a tablespace into a new tablespace could equate to “**restor[ing]** the database table associated with the tablespace from the updated backup copy without **recovering** the tablespace,” as recited in Claim 1. *Sockut* discloses reorganizing a tablespace by copying a tablespace in use to a new area and applying logs to the newly copied tablespace. The cited portions of *Sockut* describe manipulating record identifiers (RIDs) to be able to reorganize the tablespace in a new area; the cited portions do not disclose, teach, or suggest “**restor[ing]** the database table associated with the tablespace from the updated backup copy without **recovering** the tablespace,” as recited in Claim 1. Rather, the cited portions of *Socket* apparently disclose modifying the tablespace to reorganize it.

As another example, the Examiner again cites column 3, line 61 through column 4, line 17. (*See Answer at 9*) This cited portion appears to disclose how updates made during a reorganization of a database are applied to the reorganized database. However, nowhere does this cited portion appear to disclose, teach, or suggest a database table recovery system that is operable to “**restore the database table** associated with the tablespace **from the updated backup copy without recovering the tablespace**,” as recited in Claim 1.

Additionally, in the substantive rejection of Claim 1 (*see Final Office Action at 2-3; Answer at 3, 9-10*), the only limitation for which the Examiner relies on *Barry* is the limitation “a tablespace access system coupled to the table recovery system, the tablespace access system is operable to restrict access to the tablespace to read-only access,” as recited in Claim 1. Appellant submits that neither the cited portions of *Sockut* nor *Barry* (which the Examiner has not cited for this limitation) discloses, teaches, or suggests “**restor[ing]** the database table associated with the tablespace from the updated backup copy **without recovering the tablespace**,” as recited in Claim 1. It does not appear to Appellant that the Examiner has ever specifically pointed out how this limitation is allegedly disclosed in either

Sockut or *Barry*. Moreover, while the cited portion of *Sockut* (Col. 9, ll. 19-32) mentions creating a backup copy for “recoverability,” the balance of the cited portion appears to related to reorganizing a database (rather than recovering a database).²

B. The *Sockut-Barry* Combination is Improper

Appellant maintains that the Examiner has not provided a sufficient reason, either in the cited references or in the knowledge generally available to one of ordinary skill in the art at the time of Appellant’s invention, to modify or combine *Sockut* with *Barry* in the manner the Examiner proposes. Appellant’s claims are allowable for at least this additional reason.

In the Answer, the Examiner provides substantially the same purported explanation for the *Sockut-Barry* combination as provided in the Final Office Action. (See Answer at 3 and 10) To avoid burdening the record, Appellant reiterates those arguments presented in the Appeal Brief without reproducing them verbatim herein. (See, e.g., Appeal Brief at 19-22)

The Examiner adds that “[o]ne of ordinary skill in the art would have been capable of applying this known technique to a known device (method or product) that was ready for improvement and the results would have been predictable to one of ordinary skill in the art.” (Answer at 10) However, the Examiner has provided no support for the assertions that “the device . . . was ready for improvement” or “the results would have been predictable to one of ordinary skill in the art.” A mere conclusory assertion that this is the case certainly does not satisfy the Examiner’s burden for demonstrating a *prima facie* case of obviousness. “The

² In the Appeal Brief, Appellant noted that the Examiner’s statement that “the Applicant’s are not reciting all of the claim limitations of claim 1 in the arguments” is not understood by Appellant. (See Appeal Brief at 18, n.1 citing Final Office Action at 9) In particular Appellant stated that Appellant is not obligated to recite each and every limitation recited in a claim when arguing the patentability of the claim. Respectfully, it is the Examiner’s burden to show that one or more references disclose, teach, or suggest each and every limitation in Appellant’s claim. “To establish *prima facie* obviousness of a claimed invention, *all the claim limitations* must be taught or suggested by the prior art.” M.P.E.P. ch. 2143.03 (emphasis added); see also *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Appellant is simply pointing out the perceived deficiencies in the Examiner’s rejection and is not required to reiterate each and every claim limitation to do so.

Respectfully, Appellant found the Examiner’s response to this issue even more confusing. The Examiner responded by discussing whether the Examiner has supported the proposed *Sockut-Barry* combination, citing case law regarding obviousness. However, the Examiner initially raised this point (i.e., that “the Applicant’s are not reciting all of the claim limitations of claim 1 in the arguments”) when responding to Appellant’s arguments that the cited portions of the references did not disclose, teach, or suggest all claim limitations, not whether the combination was proper. In any event, Appellant remains uncertain as to the import of the Examiner’s statement.

factual inquiry whether to [modify] references must be thorough and searching.” *In re Sang-Su Lee*, 277 F.3d 1338, 1343 (Fed. Cir. 2002). The Examiner’s identification of a perceived advantage of one of the references does not provide an adequate “factual inquiry.” The Examiner does not give any technical reasoning as to why or how the improvement could have been achieved, nor does the Examiner state how these systems can be combined and, if combined, would be successfully combined. Thus, this reasoning surely cannot be said to be “thorough and searching.”

Appellant maintains that the Examiner has not provided any support for the proposed advantage that “such a modification would allow Sockut’s system to have independent recovery of the data and indexes and a significant decrease in elapsed time since the log file updates are done for all objects in the database through the log file.” (*See Answer at 3 and 10*)

Moreover, it does not appear that the Examiner responded to the following argument: It is entirely unclear and unexplained how the cited portions in *Sockut* even relate to the teachings that the Examiner is combining. For example, even assuming for the sake of argument only that *Barry* discloses “a tablespace access system coupled to the database table recovery system, wherein the tablespace access system is operable to restrict access to the tablespace to read-only access,” as argued by the Examiner, it is entirely unclear why the alleged motivation of “allow[ing] Sockut’s system to have independent recovery of the data and indexes and a significant decrease in elapsed time since the log file updates are done for all objects in the database through the log file” would lead one of ordinary skill in the art at the time of Appellant’s invention to incorporate the teaching of “a tablespace access system coupled to the database table recovery system, wherein the tablespace access system is operable to restrict access to the tablespace to read-only access,” as purportedly taught in *Barry*, into the system of *Sockut*. In other words, it is not clear how the alleged advantage of “allow[ing] Sockut’s system to have independent recovery of the data and indexes and a significant decrease in elapsed time since the log file updates are done for all objects in the database through the log file” would even be achieved by modifying the system of *Sockut* to include “a tablespace access system coupled to the database table recovery system, wherein

the tablespace access system is operable to restrict access to the tablespace to read-only access,” as purportedly taught by *Barry*.

Instead, as Appellant indicated in the Appeal Brief, it appears that the Examiner has merely argued that one of ordinary skill in the art at the time the invention was made *could have* modified *Sockut* to perform the acknowledged deficient limitations (a point which Appellant does not concede). However, it does not appear to Appellant that the Examiner has pointed to any portions of the cited references that would explain why one of ordinary skill in the art at the time of invention would incorporate “a tablespace access system coupled to the table recovery system, [] the tablespace access system [being] operable to restrict access to the tablespace to read-only access,” as recited in Claim 1, into the particular techniques disclosed in *Sockut* (*without using Appellant’s claims as a guide for doing so*). See M.P.E.P. ch. 2143.01(III) (stating that the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination); *see also In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990).³

Appellant maintains that the Examiner’s attempt to combine *Sockut* with *Barry* appears to constitute the type of impermissible hindsight reconstruction of Appellant’s claims, using Appellant’s claims as a blueprint, that is specifically prohibited by the M.P.E.P. and governing Federal Circuit cases. The Examiner’s statement that this argument from Appellant is moot cannot be supported. (See Answer at 8 and 12) Appellant has presented a number of reasons why the Examiner appears to be engaging in hindsight reconstruction of Appellant’s claims, whether or not the Examiner recognizes that she is doing so. Far from moot, Appellant respectfully submits that the Examiner plainly engaged in such hindsight

³ The Examiner again raises the argument that Appellant’s argument “is not persuasive because a suggestion/motivation need not be expressly stated in one or all of the references used to show obviousness.” (Answer at 11) Appellant reiterates that he has never argued this position. Instead, Appellant stated that the Examiner had “not provided a sufficient teaching, suggestion, or motivation, *either in the cited references or in the knowledge generally available to one of ordinary skill in the art at the time of Applicant’s invention* to modify or combine *Sockut* with *Barry* in the manner the Examiner proposes.” (See Response mailed March 21, 2007, at 10) Additionally, Appellant argued that the Examiner has not provided a sufficient basis, *either in the cited references or in the knowledge generally available to one of ordinary skill in the art at the time of Appellant’s invention* to modify or combine *Sockut* with *Barry* in the manner the Examiner proposes.” (Appeal Brief at 19)

reconstruction for at least those reasons discussed by Appellant and respectfully requests that the Board decide this issue, if necessary.

C. Conclusions with Respect to Claim 1

For at least these reasons, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Sockut-Barry* combination with respect to independent Claim 1. Thus, for at least these reasons, Appellant submits that these rejections are improper and respectfully request that the Board reverse these rejections of independent Claim 1 and its dependent claims.

II. Independent Claim 12 is Allowable over the *Sockut-Barry* Combination

A. The *Sockut-Barry* Combination Fails to Disclose, Teach, or Suggest Each and Every Limitation Recited in Claim 12

Appellant reiterates that both *Sockut* and *Barry* appear to relate to *reorganizing* tablespaces, not *recovering* a database table. Additionally, the proposed *Sockut-Barry* combination fails to disclose, teach, or suggest at least the following limitations recited in Claim 12:

- reading log records associated with a first database table of the one or more database tables;
- applying the log records to the backup copy without recovering the tablespace;
- building new table data pages from the backup copy;
- scanning the new table data pages for records of the first database table; and
- updating the first database table from the records.

The Examiner did not respond specifically to Appellant's particular arguments as to the deficiencies of the proposed *Sockut-Barry* combination with respect to Claim 12. This is despite the fact that Appellant devoted approximately four pages of the Appeal Brief to discussing these deficiencies. Instead, the Examiner simply reiterated the same rejection that was made in the Final Office Action. (*See Answer at 4*) To avoid burdening the record, Appellant respectfully directs the Board to pages 22-26 of the Appeal Brief, which discuss in detail the deficiencies of the proposed *Sockut-Barry* combination with respect to Claim 12.

B. The Proposed Modifications to *Sockut* are Improper

Appellant respectfully submits that the Examiner has not demonstrated an adequate reason, either in the cited references or in the knowledge generally available to one of ordinary skill in the art at the time of the invention for modifying *Sockut* in the manner proposed by the Examiner. Appellant reiterates the heavy burden incumbent on the Examiner for demonstrating a *prima facie* case of obviousness.

Again, it does not appear the Examiner specifically responded to the arguments made by Appellant with respect to Claim 12. Therefore, Appellant respectfully reiterates those reasons presented at least at pages 26-28 of the Appeal Brief as to the impropriety of the proposed combination with respect to Claim 12.

C. Conclusions with Respect to Claim 12

For at least these reasons, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Sockut-Barry* combination with respect to independent Claim 12. Thus, for at least these reasons, Appellant submits that these rejections are improper and respectfully request that the Board reverse these rejections of independent Claim 12 and its dependent claims.

III. Independent Claim 17 is Allowable over the *Sockut-Barry* Combination

A. The *Sockut-Barry* Combination Fails to Disclose, Teach, or Suggest Each and Every Limitation Recited in Independent Claim 17

Appellant reiterates that both *Sockut* and *Barry* appear to relate to *reorganizing* tablespaces, not *recovering* a database table. Additionally, the proposed *Sockut-Barry* combination fails to disclose, teach, or suggest at least the following limitations recited in Claim 17:

- reading log records associated with a first database table of the one or more database tables;
- applying the log records to the backup copy without recovering the tablespace;
- building one or more table data pages from the backup copy having the log records applied;
- selecting one or more records from the one or more database table data pages, the one or more records belonging to the first database table; and

- updating the first database table with the one or more records selected from the one or more table data pages, while allowing access to the rest of the one or more database tables in the tablespace,
- wherein the first database table can be recovered without having to recover the tablespace.

The Examiner did not respond specifically to Appellant's particular arguments as to the deficiencies of the proposed *Sockut-Barry* combination with respect to Claim 17. This is despite the fact that Appellant devoted approximately two pages of the Appeal Brief to discussing these deficiencies. Instead, the Examiner simply reiterated the same rejection that was made in the Final Office Action. (*See Answer at 6*) To avoid burdening the record, Appellant respectfully directs the Board to pages 29-30 of the Appeal Brief, which discuss in detail the deficiencies of the proposed *Sockut-Barry* combination with respect to Claim 17.

B. The Proposed Modifications to *Sockut* are Improper

For at least those reasons discussed with reference to Claim 12, Appellant respectfully submits that the Examiner has not demonstrated an adequate reason, either in the cited references or in the knowledge generally available to one of ordinary skill in the art at the time of the invention for modifying *Sockut* in the manner proposed by the Examiner. Appellant reiterates the heavy burden incumbent on the Examiner for demonstrating a *prima facie* case of obviousness. The Examiner did not specifically respond to those arguments presented with respect to Claim 12. Therefore, Appellant simply reiterates those arguments.

C. Conclusions with Respect to Claim 17

For at least these reasons, Appellant respectfully submits that the Examiner has not established a *prima facie* case of obviousness based on the proposed *Sockut-Barry* combination with respect to independent Claim 17. Thus, for at least these reasons, Appellant submits that these rejections are improper and respectfully request that the Board reverse these rejections of independent Claim 17 and its dependent claims.

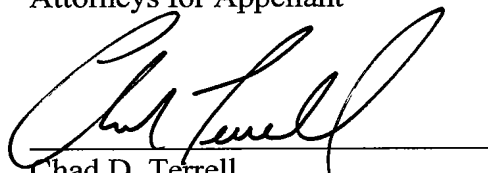
Conclusion

Appellant has demonstrated that the present invention, as claimed, is clearly patentably distinguishable over the references cited by the Examiner. Therefore, Appellant respectfully requests the Board to reverse the final rejection of the Examiner and instruct the Examiner to issue a Notice of Allowance of all pending claims.

Although Appellant believes no fees are due at this time, the Commissioner is hereby authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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Date: July 14, 2008

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